Adult ADHD in Primary Care: Addressing the Unmet Need

Faculty
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Disclosures
- Dr. Michael Feld, MD serves as a speaker and on the advisory board for Neos Pharmaceutical and Tris Pharmaceutical. Dr. Feld also serves as a speaker for Rhodes Pharmaceutical and Arbor Pharmaceutical.
Learning Objectives

1. Describe ADHD symptom profiles and common presentations in a primary care setting
2. Identify risks for coexisting disorders in adult patients with ADHD with emphasis on anxiety disorders, mood disorders, and substance use/abuse disorders
3. Implement appropriate pharmacologic treatment for adults diagnosed with ADHD designed to improve compliance, minimize side effects and maximize outcomes in a busy primary care setting
4. Use adult ADHD assessment and treatment tools for assessment, treatment and follow-up monitoring

PRE-TEST QUESTIONS

Pre-test ARS Question 1
A 37-year-old woman presents complaining of distractibility and inability to focus. She has a new job and often can't focus on or complete assigned tasks. She asks if there is something that can help improve her concentration. She has a 14-year-old daughter who was recently diagnosed with ADHD.

Which of the following would be appropriate at this time?

1. Refer to specialist for evaluation
2. Administer ASRS or ADHD-RS scales
3. Initiate empiric therapy with short-acting stimulant
4. Diagnose ADHD based on presentation and family history
Pre-test ARS Question 2
Based on meta-analysis of treatment effect sizes, which of the following agents is generally reserved for second-line use in adults with ADHD?

1. Atomoxetine
2. Lisdexamfetamine
3. Methylphenidate XR
4. Mixed amphetamine salts XR

Pre-test ARS Question 3
Which of the following is the most common psychiatric comorbidity in adults with ADHD?

1. Major Depression
2. Bipolar Disorder
3. Anxiety Disorder
4. Dysthymia Disorder

Pre-test ARS Question 4
According to the DSM-5, all of the following are required criteria for a diagnosis of adult ADHD, EXCEPT:

1. Symptoms present before age 8
2. Symptoms cause functional impairments
3. At least 5 symptoms from Inattention and/or Hyperactive/Impulsive domains
4. Functional impairments in at least two domains (school, work, home, social)
Pre-test ARS Question 5
How often do you consider a diagnosis of ADHD in adult patients presenting with symptoms of depression, anxiety or substance abuse?

1. Never
2. Rarely
3. Sometimes
4. Very often
5. Always

Pre-test ARS Question 6
Please rate your confidence in your ability to recognize and diagnose ADHD in adult patients:

1. Not at all confident
2. Slightly confident
3. Moderately confident
4. Pretty much confident
5. Very confident
### Patient Case: Emily

- 38-year-old married woman with two children
  - 10-year-old boy, 7-year-old girl
- Presents complaining of sleep problems
- Fidgets and appears distracted during visit
- Reports feeling stressed and overwhelmed

Says: “I don’t know what it is, I’m just struggling right now. Would an antidepressant help?”

### Emily (cont’d)

#### Medical History
- Prior episode of major depression, 10 years ago; treated with SSRI
- Otherwise in good health
- PE: unremarkable
- Meds: oral contraceptives

#### Other History
- Struggled with school as child, did not go to college
- Former smoker
- Drinks socially
- Son has history of behavioral problems at school for several years

### ADHD Is Prevalent in All Age Groups

Historically, ADHD has been thought of as a childhood disorder, but it has been demonstrated to persist into adulthood.

ADHD IS A Highly Genetic Neurologic Condition
Heritability of Psychiatric Illnesses

ADHD  Bipolar  Depression

ADHD Patients Have Greater Rates of Functional Impairment...
Functional Impairments in ADHD vs Normal Control

Diagnostic Criteria
ADHD Is a Neurologic Disorder That Affects Many Areas of Life

- Social
- Psychiatric Comorbidities
- Inattention
- Impulsivity
- Hyperactivity
- School
- Home

Diagnostic Criteria for Adult ADHD DSM - 5

A. Symptomatic criteria – At least 5 in at least one symptom domain (Inattentive or Hyperactive/Impulsive)
B. Age of onset: symptoms present < age 12
C. Impairments: symptoms cause functional impairment at school or work or social or personal or home life
D. Pervasiveness: impairments from symptoms in at least 2 domains
E. Differential diagnosis: symptoms not a result of other disorders


Inattentive
1. Easily distracted
2. Does not follow through
3. Does not seem to listen
4. Difficulty sustaining attention
5. Poor attention to details or makes careless mistakes
6. Avoids, dislikes or is reluctant to engage in tasks that require sustained mental effort
7. Difficulty organizing
8. Loses things necessary for tasks or activities
9. Forgetfulness

Hyperactive/Impulsive
1. Fidgets, taps, squirms
2. Leaves seat
3. “On the go/Driven by a motor”
4. Feels restless
5. Can’t be quiet in leisure activities
6. Talks excessively
7. Blurs out
8. Interrupts/Intrudes
9. Has difficulty waiting turn
National Comorbidity Survey Replication: Mood Disorders in Adult ADHD

- Bipolar disorder 19.4%
- Major depression 18.6%
- Dysthymia 12.8%
- Any mood disorder 38.3%


National Comorbidity Survey Replication: Anxiety Disorders in Adult ADHD

- Generalized anxiety disorder 8%
- Panic disorder 8.9%
- Obsessive-compulsive disorder 2.7%
- PTSD 11.9%
- Social phobia 29.3%
- Agoraphobia 4%
- Any anxiety disorder 47%

Screening

An Algorithm for Clinical Assessment and Diagnosis of ADHD in Adults – Culpepper and Mattingly, 2008*

**Thorough History**

- Medical/Psychiatric History
  - Have you been diagnosed with a medical condition?
  - Have you been diagnosed with a psychiatric condition?
  - Do you currently take any medication?

- Family History
  - Have your parents, siblings, or other family members shown symptoms of inattention and/or hyperactivity?
  - Have your parents or siblings been diagnosed with ADHD/ADD?
  - Do you have a child who has been diagnosed with ADHD/ADD?

- Developmental History
  - How did you do in school as a child?
  - Could you provide your school records?
  - Do you recall any comments from teachers regarding your behavior or performance in school?
  - Did you have to repeat a grade?

- Educational/Vocational History
  - Ask the patient specific questions about their inattention, hyperactivity, and impulsivity in the three domains listed.

Thorough History (cont.)

**Clinical Assessment**

- Medical/Psychiatric History
  - Have you been diagnosed with a medical condition?
  - Have you been diagnosed with a psychiatric condition?
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  - How did you do in school as a child?
  - Could you provide your school records?
  - Do you recall any comments from teachers regarding your behavior or performance in school?
  - Did you have to repeat a grade?

Thorough History (cont.)

**Additional Assessments**

- Make the diagnosis
- Refer to specialists if not sure of the diagnosis
- If not sure of treatment options
- If the patient has significant psychiatric comorbidity
- If treatment is not responsive to medications prescribed
- If the patient needs joint input from the psychiatrist and the primary care provider

*This algorithm was adapted from an article by Culpepper and Mattingly in Post Graduate Medicine.

An Algorithm for Clinical Assessment and Diagnosis of ADHD in Adults – Culpepper and Mattingly, 2008* (cont.)
Which is the ‘BEST’ scale to detect inadequate response to an ADHD medication?

- ADHD-RS ??
- Conner’s ??
- Vanderbilt ??
- Others ??

ASRS Screener
- A 6-question subset of the 18-item scale that is used to screen for ADHD symptoms but is not diagnostic in and of itself.¹²
- These 6 items were selected based on stepwise logistic regression analysis of the diagnostic interviews of patients with and without ADHD in the National Comorbidity Survey Replication sample.²
- Scoring based on how often a symptom occurred over the previous 6 months.²
- Items significant at threshold frequency of “sometimes” or “often.”²
- 4 inattentive items.²
- 2 hyperactive-impulsive items.²
- Positive predictive value in 57% to 95% of cases.²

ADHD-RS with Adult Prompts
- An 18-item scale corresponding to the 18 items in the DSM-IV-TR, providing a rating of the severity of symptoms.
- 9 items assessing inattentive symptoms.
- 9 items assessing hyperactive-impulsive symptoms.
- Scoring based on a 4-point Likert-type severity scale.
  - 0 = none
  - 1 = mild
  - 2 = moderate
  - 3 = severe

¹ASRS v.1 Screener (C) 2009 World Health Organization (WHO).
Treatment

FDA-Approved Medications for Adults with ADHD

<table>
<thead>
<tr>
<th>Medication</th>
<th>Child dosing</th>
<th>Adolescent dosing</th>
<th>Adult dosing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomoxetine</td>
<td>0.5 mg/kg (&lt; 70 kg)</td>
<td>max 1.2 mg/kg (max 100 mg)</td>
<td>40 mg max 100 mg</td>
</tr>
<tr>
<td>Dextroamphetamine XR</td>
<td>5 mg</td>
<td>max 30 mg</td>
<td>10 mg max 40 mg</td>
</tr>
<tr>
<td>Lisdexamfetamine</td>
<td>10-70 mg</td>
<td>20-70 mg</td>
<td>20-70 mg</td>
</tr>
<tr>
<td>Mixed amphetamine salts XR</td>
<td>10-30 mg</td>
<td>10-20 mg</td>
<td></td>
</tr>
<tr>
<td>OROS Methylphenidate HCL</td>
<td>18-54 mg</td>
<td>18-72 mg</td>
<td>18-72 mg</td>
</tr>
</tbody>
</table>

ADHD Treatment Effect Size*

<table>
<thead>
<tr>
<th>Medication</th>
<th>Effect Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atomoxetine</td>
<td>0.5-0.7</td>
</tr>
<tr>
<td>Methylphenidate XR or OROS</td>
<td>0.8-0.9</td>
</tr>
<tr>
<td>Mixed Amphetamine salts XR</td>
<td>0.9-1.0</td>
</tr>
<tr>
<td>Lisdexamfetamine</td>
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</tr>
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* >= 0.5 – Moderate effect size
>= 0.8 – Large effect size

How long do they help?
Modified Workplace Setting
PERMP Scores: Lisdexamfetamine vs Placebo

LS Mean PERMP Total Score From 2 to 14 Hours Postdose (Secondary End Point)

<table>
<thead>
<tr>
<th>Time Postdose (Hours)</th>
<th>Lisdexamfetamine*</th>
<th>Placebo†</th>
</tr>
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<tbody>
<tr>
<td>2</td>
<td>318.6‡</td>
<td>318.7‡</td>
</tr>
<tr>
<td>4</td>
<td>313.5‡</td>
<td>314.6‡</td>
</tr>
<tr>
<td>8</td>
<td>311.4‡</td>
<td>311.1‡</td>
</tr>
<tr>
<td>10</td>
<td>314.1‡</td>
<td>311.2‡</td>
</tr>
<tr>
<td>12</td>
<td>301.5†</td>
<td>300.9†</td>
</tr>
<tr>
<td>14</td>
<td>296.7</td>
<td>293.8</td>
</tr>
</tbody>
</table>

The most common treatment-emergent adverse events (>5%) reported during the dose-optimization phase of this study were decreased appetite, dry mouth, headache, insomnia, upper respiratory tract infection, irritability, nausea, anxiety, feeling jittery, diarrhea and fatigue.

*Average of all doses tested; †P=.0017 vs placebo; ‡P<.0001 vs placebo


Summary

ADHD Takeaways
1) ADHD is a highly genetic neurologic condition
2) 60 percent persist into adulthood
3) Untreated ADHD has significant morbidity and increased mortality
4) ADHD treatment has some of the highest effect sizes in all of medicine
5) Short acting stimulants do not have specific indications or safety data for adult ADHD
6) Long acting-once daily medications should be used to optimize symptom control
**POST-TEST QUESTIONS**

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